

REMARKS

Claims 1-17 are pending in the present application. Claims 1-3, 5, 7-11, 14, 16 and 17 have been amended. Claims 7 and 13 have been indicated as being allowable if rewritten to include the limitations of the claims from which they depend.

Applicants respectfully request reconsideration of the application in view of the foregoing amendments and remarks appearing below, which Applicants believe place the application in condition for allowance.

Rejection Under 35 U.S.C. § 102(e)

The Examiner has rejected claims 1, 3-6, 8, 9 and 15-17 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,023,171 to Boyette, Jr. et al., stating Boyette, Jr. et al. disclose all the elements of these claims. Applicants respectfully disagree.

As discussed in the response to the Office Action of January 13, 2003, Boyette, Jr. et al. disclose a probe tip (10) for performing conventional four-probe, or Kelvin, type testing. In such testing, a driving voltage is applied by a driving circuit (20) across a circuit under test (18) via two leads (16) each in electrical communication with the circuit under test. A high-impedance sensing circuit (22) is connected to the circuit under test in parallel with the driving circuit, also via leads 16.

The sensing circuit is used to determine whether or not the circuit under test meets certain pre-established pass/fail criteria. Alternatively, the sensing circuit may be used to "correct and control operation of the driving circuit" so that the voltage function applied to the circuit under test is a certain magnitude regardless of the magnitude of the contact resistance between probe contacts (12) and respective leads 16. Col. 3, lines 54-58.

The present invention, on the other hand, is directed to a system and method for adjusting the magnitude of a signal applied to a probe pad based on the magnitude of that signal as sensed at that probe pad so as to achieve a desired value of the signal as measured at the pad. In other words, a signal is applied to the probe pad at a first portion by a forcing probe, the signal is sensed at a second portion of the same pad by a sensing probe and the signal applied to the pad is adjusted using a feedback system that utilizes the sensed magnitude of the signal as input. The difference between the magnitude of the signal sensed at the sensing probe and the magnitude of the signal applied by the forcing probe is due to losses incurred as the signal passes from the

forcing probe to the sensing probe through the probe pad. The signal applied by the forcing probe is adjusted by/using the feedback system so as to achieve a desired value, e.g., a value a circuit component under test would experience during normal use, as measured at the second portion of the probe pad.

Applicants believe that each of the two independent claims, claims 1 and 9, now clearly recite the features of the present invention discussed in the immediately preceding paragraph. Regarding the Boyette, Jr. et al. patent, Boyette, Jr. et al. do not disclose several important features of these claims. For example, claim 1, as amended, requires a sensing probe for sensing at a second portion on a probe pad the electrical signal applied at a first portion on the probe pad, i.e., the applied signal less any losses incurred by the signal as it flows from the forcing probe to the sensing probe via the probe pad. Boyette, Jr. et al. do not disclose such a sensing probe. Rather, Boyette, Jr. et al. disclose two sensing probes for sensing a voltage difference between two probe pads. In addition, claim 1, as amended, further requires a feedback system for adjusting the magnitude of the signal applied by the forcing probe to the probe pad as a function of the magnitude of that signal as sensed at the same probe pad. Boyette, Jr. et al. do not disclose such a feedback system local to a single probe pad. In contrast, any feedback control that the Boyette, Jr. et al. system may have (none are explicitly disclosed) would be based on a voltage difference between two probe pads via leads 16, not a signal sensed across a single probe pad.

Similarly, independent claim 9, as amended, requires the steps of (1) sensing a first electrical signal after it passes from a first portion to a second portion of a probe pad through the probe pad and (2) adjusting the magnitude of the first electrical signal applied to a probe pad at a first portion as a function of the magnitude of that signal sensed at the second portion of that pad. Boyette, Jr. et al. do not disclose these steps. At most, Boyette, Jr. et al. suggest that a voltage function may be varied as a function of a voltage difference sensed between two probe pads (leads 16) by the sensing circuit (22).

Since Boyette, Jr. et al. do not disclose or suggest at least the foregoing limitations of independent claims 1 and 9, as amended, the Boyette, Jr. et al. patent cannot anticipate these claims, nor claims 3, 10, 14, 16 and 17 that depend therefrom. Therefore, Applicants respectfully request that the Examiner withdraw the present rejection.

Rejection Under 35 U.S.C. § 103

The Examiner has rejected claims 2, 10-12 and 14 under 35 U.S.C. § 103 as being obvious in view of the Boyette, Jr. et al. patent, discussed above, and ordinary skill in the art, stating Boyette, Jr. et al. disclose all of the elements of these claims except a plurality of forcing probes, power supplies, etc., measuring a third electrical signal, and providing feedback controllers. The Examiner then asserts it would have been obvious to a person having ordinary skill in the art to provide these features to the Boyette, Jr. et al. system and method. Applicants respectfully disagree.

Without arguing the merits of this rejection with regard to each of these claims, Applicants assert that this rejection is improper because, as discussed above in connection with the anticipation rejection, Boyette, Jr. et al. do not disclose or suggest at least several limitations of amended independent claims 1 and 9 from which the rejected claims depend. Neither the references of record nor ordinary skill in the art provide the missing limitations. Therefore, any combination of the Boyette, Jr. et al. patent with one or more references of record and/or ordinary skill in the art would lack at least these limitations of the rejected claims. Therefore, the present rejection is not proper.

For at least this reason, Applicants respectfully request that the Examiner withdraw the present obviousness-type rejections of claims 2, 10-12 and 14.

CONCLUSION

In view of the foregoing, Applicants submit that claims 1-17 are now in condition for allowance. Therefore, prompt issuance of a Notice of Allowance is respectfully solicited. If any issues remain, the Examiner is encouraged to call the undersigned attorney at the number listed below.

Respectfully submitted,

INTERNATIONAL BUSINESS MACHINES
CORPORATION

By: 

Morgan S. Heller II

Registration No.: 44,756

DOWNNS RACHLIN MARTIN PLLC

Tel: (802) 863-2375

Attorneys for Applicants

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OCT 20 2003
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